

Application No.: 10/829,292

REMARKS

By the above amendments, claim 1 is revised and new claims 23-26 are canceled to place this application in condition for allowance. Currently, claims 1-4, 6, 7 and 18, 19, 21, and 22 are before the Examiner for consideration on their merits.

In review, claim 1 has been to incorporate the limitations of claims 24 and 26 therein. Since the revision to claim 1 is nothing more than the incorporation of previously considered subject matter, no new issues requiring further consideration are introduced and this Amendment after a final rejection should be entered at least for purposes of appeal if the arguments below are not found persuasive. .

The purpose of this response is to place the claims in condition for allowance by making them commensurate in scope with the comparative evidence of the specification.

Applicants have previously argued that the two stage heating process of claim 1 produced unexpected benefits. These unexpected benefits are shown via Tables 1-5, see pages 21-23 of the specification.

In more detail, Table 2 shows five different surface treatments as Nos. 1-5. These five different surface treatments are linked to different steel compositions and heating conditions in Table 3. Table 3 also has four comparison tests using two of the five surface treatments. Table 5 reveals that the five different surface treatments that involved two stage heating conditions falling within the claimed processing limits provided unexpectedly superior properties in terms of seizing and galling. Table 5 also reveals that the four comparison tests (using surface treatment conditions 1 and 2) that

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did not abide by the heating conditions of claim 1, 2 demonstrated extremely poor performance from a galling and seizure standpoint.

What this comparison demonstrates is that for the same surface treatment 1 or 2, which is either the polyamideimide resin and MoS₂ or the epoxy resin and the combination of MoS₂ and graphite, following the heating conditions of claim 1 produced superior properties whereas not abiding by the heating conditions of claim 1 produced a vastly inferior product.

These unexpected results were acknowledged by the Examiner in the outstanding Office Action on page 4, lines 3-17 as rebutting the allegation of obviousness. In this acknowledgement, the Examiner took the position that the claims were not in condition for allowance though since they were not commensurate in scope with the showing made in the specification. The primary reasoning was that claim 1 was drawn to any resin and the showing of unexpected results did not support covering any resin as part of the surface treatment. The same reasoning was applied with respect to the lubricating composition of claim 1.

Applicants concede for the moment that a *prima facie* case of obviousness is established and wish to seek patentability of claim 1 in its amended form based on the comparative showing of the specification. This concession is seen in claim 1 and its limitation to the actual resins used in Test Nos. 1-7. It is submitted that since each of the resins now claimed have been shown to have superior and unexpected properties in the context of the heating regimen of claim 1, the submission of claim 1 in its revised

form means that claim 1 is commensurate in scope with the comparison set forth in the specification.

The same argument applies regarding the lubricating composition. Claim 1 now limits the lubricating composition to the three specific lubricants used in the comparison discussed above, graphite, WS_2 and MoS_2 . While it is true that graphite is not used by itself in the comparison but only in combination with MoS_2 , this does not mean that graphite cannot be considered to be one of the listed lubricants in claim 1 that could be used to achieve the aims of the invention.

That is, the unobviousness of claim 1 in terms of specifying a lubricating composition of graphite or MoS_2 in combination with one of the claimed resins can be supported based on the existing comparative evidence. As explained in MPEP Section 716.02(d)(I), unobviousness is based on whether one of ordinary skill in the art would be able to determine a trend in the exemplified data that would allow the artisan to reasonably extend the probative value thereof.

In the instant situation, the question is whether one would expect the same results to be obtained when using graphite alone as the lubricating composition. The first point to be noted here is that graphite is used as one of the lubricants, see for example surface treatment No. 2 of Table 2, without any adverse effect on seizing. This means that no adverse effect occurs as a result of the presence of graphite. As evidenced by the MoS_2 and graphite-containing comparative Test Nos. 1 and 3 of Table 5, the adverse effect is a result of not following the heating regimen of claim 1, not the presence or absence of graphite.

The second point on this issue is that the prior art groups MoS₂ and graphite together as additives for lubricating greases, see WO 93/06197 to Vik, page 6, lines 9-16. What this means is that one of skill in the art would expect that the data of improved seizing by practicing the method of claim 1 would be expected to occur when the lubricant composition is graphite. In this regard, it must be remembered again that the critical aspect of the invention is the heating regimen, not the particular type of lubricant being used. This is demonstrated by the fact that the surface treatments use three different lubricants, MoS₂, MoS₂ + graphite, and WS₂, and each of the three different lubricants results in the same unexpected performance with respect to galling/seizing. This data would exemplify a trend that would tell one of skill in the art that using graphite alone would produce similar results as using similar lubricating compositions, particularly one that includes graphite as a component thereof, surface treatment No. 2.

Therefore, it is submitted that claim 1, as amended, is commensurate in scope with the showing in the specification.

The Examiner's comments in the Office Action that the unexpected results have only been shown with respect to the polyamideimide resin, epoxy resin, and the MoS₂ powder are noted. However, Applicants submit that this observation fails to take into account the entirety of Applicants comparative evidence in demonstrating the unexpected benefits when practicing the heating regimen of claim 1. For example, in Table 2, surface treatment No. 3 uses phenolic resin and WS₂ and the seizing results when this material is subjected to the inventive heating regimen are comparable to

those of surface treatment Nos. 1 and 2. These results indicate that Applicants should be entitled to the claimed heating regimen when using this resin and lubricating composition as well as the ones used in surface treatments Nos. 1 and 2. While a comparison was not made using the surface treatment No. 3 and a heating regimen that would be outside the claimed heating regimen, the fact that the same results in terms of seizing/galling are realized for each of surface treatment Nos. 1-3 implies that claim 1, as revised, is also unobviousness when defining the resin as a phenolic resin and the lubricating composition as WS_2 .

To summarize, it is submitted that any allegation of unobviousness is effectively rebutted by the comparison of Tables 1-5 of the specification. In addition, claim 1, which limits the resin to the three resins used in the comparison and also limits the lubricant to the three lubricants used in the comparison means that claim 1 is commensurate in scope with the demonstration of unexpected results.

Accordingly, even if Applicants concede that either Tsuru alone or Tsuru in combination with Takamori establishes a *prima facie* case of obviousness against claim 1, this *prima facie* case of obviousness is rebutted by the showing in the specification and the revision to claim 1. Thus, the rejection as applied to claim 1 and its dependent claims should be withdrawn.

Accordingly, the Examiner is requested to examine this application and pass all pending claims onto issuance.

If an interview with Applicant's attorney would expedite allowance of this application, the Examiner is invited to telephone the undersigned at 202-835-1753.

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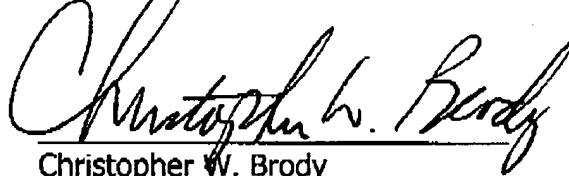
The above constitutes a complete response to all issues raised in the Office
Action dated December 4, 2007.

Again, reconsideration and allowance of this application is respectfully requested.

Applicant petitions for a two-month extension of time. Please charge deposit
account no. 50-0188 the petition fee of \$460.00.

Please charge any fee deficiency or credit any overpayment to Deposit Account
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Respectfully submitted,
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